



Casein Soya Agar, Modified

M1615

Casein Soya Agar, Modified is recommended as a general-purpose medium for cultivation of various microorganisms.

Composition**

Ingredients	Gms / Litre
Pancreatic digest of casein	14.500
Papaic digest of soyabean meal	5.000
Sodium chloride	5.000
Growth factors	1.500
Agar	14.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 40 grams in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 121°C for 15 minutes. DO NOT OVERHEAT. Cool to 45-50°C. For preparation of blood plates, add 5-10% v/v sterile, defibrinated blood to the sterile medium. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Casein Soya Agar, Modified is a nutrient medium, which can be used as a base medium as well as an unsupplemented medium. Casein Soya Agar, Modified is a modified version of Tryptone Soya Agar, which is supplemented with 5-10% sterile blood. This medium is used for cultivation of fastidious organisms and for determining haemolytic reactions. The medium can be used in differentiation of *Streptococcus* species. The medium is supplemented with growth factors to achieve a better growth of fastidious microorganisms. Blood is the most common additive for Tryptone Soya Agar and it can be added at different concentrations between 5 and 15%.

Pancreatic digest of casein and papaic digest of soyabean meal in the medium provide organic nitrogen and amino acids. Sodium chloride maintains osmotic balance of the medium. Sheep blood stimulates excellent growth and aids in the formation of appropriate hemolytic reactions of fastidious organisms. The medium with 5% horse blood supplies both X and V factors that are growth requirements for certain organisms; e.g. *Haemophilus influenzae*. Haemolytic reactions displayed by defibrinated horse blood differ from those of sheep blood (1).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.4% Agar gel

Colour and Clarity of prepared medium

Basal medium: Yellow to tan coloured clear to slightly opalescent gel. After addition of 5-7% w/v sterile defibrinated blood : Cherry red coloured opaque gel forms in Petri plates

Reaction

Reaction of 4.0% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

M1615: Cultural characteristics observed with added 5% w/v sterile defibrinated blood after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Haemolysis
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Cultural Response

<i>Streptococcus pneumoniae</i> ATCC 6305	50-100	good-luxuriant	≥70%	alpha
<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant	≥70%	beta
<i>Listeria monocytogenes</i> ATCC 19115	50-100	good-luxuriant	≥70%	beta(+/-)
<i>Staphylococcus aureus</i> ATCC 25923	50-100	good-luxuriant	≥70%	beta
<i>Staphylococcus aureus</i> ATCC 6538p	50-100	good-luxuriant	≥70%	beta
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	good-luxuriant	≥70%	beta
<i>Streptococcus pyogenes</i> ATCC 49117	50-100	good-luxuriant	≥70%	beta
<i>Shigella dysenteriae</i> ATCC 9361	50-100	good-luxuriant	≥70%	none
<i>Candida albicans</i> ATCC 10231	50-100	good-luxuriant	≥70%	none

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

1. Murray P. R., Baron J. H., Pfaller M. A., Tenover J. C. and Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C. .,

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